

CLAIM AMENDMENTS

Replacement Claims set:

1. (Currently Amended) A medical assembly for local delivery of a therapeutic substance to an internal body tissue target area comprising:
 - (a) a catheter having a distal end and a proximal end;
 - (b) a delivery lumen extending from the distal end of the catheter to the proximal end of the catheter for the delivery of a therapeutic substance;
 - (c) a first transducer, for creating an energy, supported at the distal end of the catheter by a number of anchoring points, wherein an inner surface of the transducer is positioned at a distance from an outer surface of the catheter, wherein the distance defines a gap between the outer surface of the catheter and the inner surface of the transducer, wherein the anchoring points comprise an adhesive that seals the gap at a distal end and proximal end of the gap; and
 - (d) a low density material contained in the gap for reflecting the energy from the gap toward the body tissue target area.
2. (Canceled).
3. (Previously Presented) The medical assembly of Claim 1, wherein the low density material is selected from the group consisting of ambient air, oxygen, nitrogen, helium, open-cell polymer foam, closed-cell polymer foam and mixtures thereof.

4. (Previously Presented) The medical assembly of Claim 1, wherein the transducer comprises a hollow tubular shaped body, and wherein the catheter is extended through the hollow body.
5. (Previously Presented) The medical assembly of Claim 1, wherein the distance is greater than about 25 μm in length.
6. (Canceled).
7. (Previously Presented) The medical assembly of Claim 1, wherein the therapeutic substance is selected from a group consisting of antineoplastic, antiinflammatory, antiplatelet, anticoagulant, fibrinolytic, thrombin inhibitor, antimitotic, and anti-proliferative substances and mixtures thereof.

8–10. (Canceled).

11. (Previously Presented) The medical device assembly of Claim 1, further comprising a second transducer supported by the distal end of the catheter assembly, each transducer having a proximal end and a distal end, wherein the distal end of the first transducer is positioned at a distance from the proximal end of the second transducer.
12. (Currently Amended) A medical assembly for local delivery of a therapeutic substance to an internal body tissue target area comprising:

- (a) a catheter having a distal end and a proximal end;
- (b) a delivery lumen extending from the distal end of the catheter to the proximal end of the catheter for the delivery of a therapeutic substance; and

(c) a plurality of transducers supported at the distal end of the catheter, each transducer having a proximal end and a distal end, wherein the distal end of a transducer is positioned at a distance from the proximal end of an adjacent transducer to allow the catheter to be flexible and bend in the area between the pair of adjacent transducers.

13. (Previously Presented) The medical assembly of Claim 12, wherein each of the plurality of transducers are supported by the catheter by a number of anchoring points, wherein an inner surface of each transducer is positioned at a distance from an outer surface of the catheter, wherein the distance defines a gap between the outer surface of the catheter and the inner surface of the transducer.

14-16. (Canceled).

17. (Previously Presented) A method for delivering a therapeutic substance to an internal body tissue target area comprising the acts of:

(a) providing a catheter having a distal end and a proximal end, and further having a delivery lumen, said delivery lumen extending from the distal end of the catheter to the proximal end of the catheter for delivery of a therapeutic substance;

(b) further providing a transducer, for creating an energy, supported at the distal end of the catheter by a number of anchoring points, wherein an inner surface of the transducer is positioned at a distance from an outer surface of the catheter, the distance defining a gap between the outer surface of the catheter and the inner surface of the transducer, the gap containing a low density material for reflecting the energy from the gap towards the target area, wherein the anchoring points comprise an adhesive that seals the gap at a distal end and proximal end of the gap;

- (c) positioning said catheter proximate the internal body tissue target area;
- (d) causing a therapeutic substance to elute from the delivery lumen at the distal end of the catheter; and
- (e) transmitting an electrical signal to the transducer for creating the energy.

18. (Previously Presented) The method of Claim 17, wherein the therapeutic substance is selected from a group consisting of antineoplastic, antiinflammatory, antiplatelet, anticoagulant, fibrinolytic, thrombin inhibitor, antimitotic, and anti-proliferative substances and mixtures thereof.

19. (Currently amended) A method of treating an internal body tissue with a therapeutic substance comprising:

- (a) locally delivering the therapeutic substance in the vicinity of the internal body tissue;
- (b) generating ultrasonic energy in the vicinity of the internal body tissue, wherein the ultrasonic energy is generated by a transducer;
- (c) adjusting the ultrasonic energy by manipulating an electronic signal applied to the transducer, wherein the electronic signal is oscillated approximately equal to the mechanical resonance frequency of the transducer; and
- (d) amplifying the ultrasonic energy by interposing a gap between a catheter for delivering the therapeutic substance and the transducer for generating the ultrasonic energy, wherein the gap is sealed by an adhesive at a distal end and proximal end of the gap.

20. (Canceled).

21. (Previously Presented) The method of Claim 17, wherein the electrical signal has a frequency greater than about 20 kHz.

22. (Previously Presented) The method of Claim 17, wherein the electrical signal has a voltage greater than about 94.8 V.

23. (Previously Presented) The method of Claim 19, wherein the electrical signal has a frequency greater than about 20 kHz.

24. (Previously Presented) The method of Claim 19, wherein the electrical signal has a voltage greater than about 94.8 V.

25. (Previously Presented) A medical device comprising:
a lumen for inserting in a body passageway; and
a first transducer supported by the lumen, the first transducer having a first end and a second end;
a second transducer supported by the lumen, the second transducer having a first end and a second end, wherein the first end of the second transducer is positioned at a distance from the second end of the first transducer so as to allow the lumen to be flexible in the area between the second end of the first transducer and the first end of the second transducer.

26. (Previously Presented) The medical device of Claim 25, additionally including an enclosed gap region located between the first transducer and the lumen, the enclosed gap region containing a substance.

27. (Previously Presented) The medical device of Claim 26, wherein the substance is selected from a group consisting of ambient air, oxygen, nitrogen, helium, open-cell polymer foam, closed-cell polymer foam and mixtures thereof.

Claims 28-31. (Canceled)

32. (Previously Presented) The medical device of Claim 13, additionally including a substance contained in the gap.

33. (Previously Presented) The medical device of Claim 13, additionally including a low density material contained in the gap.